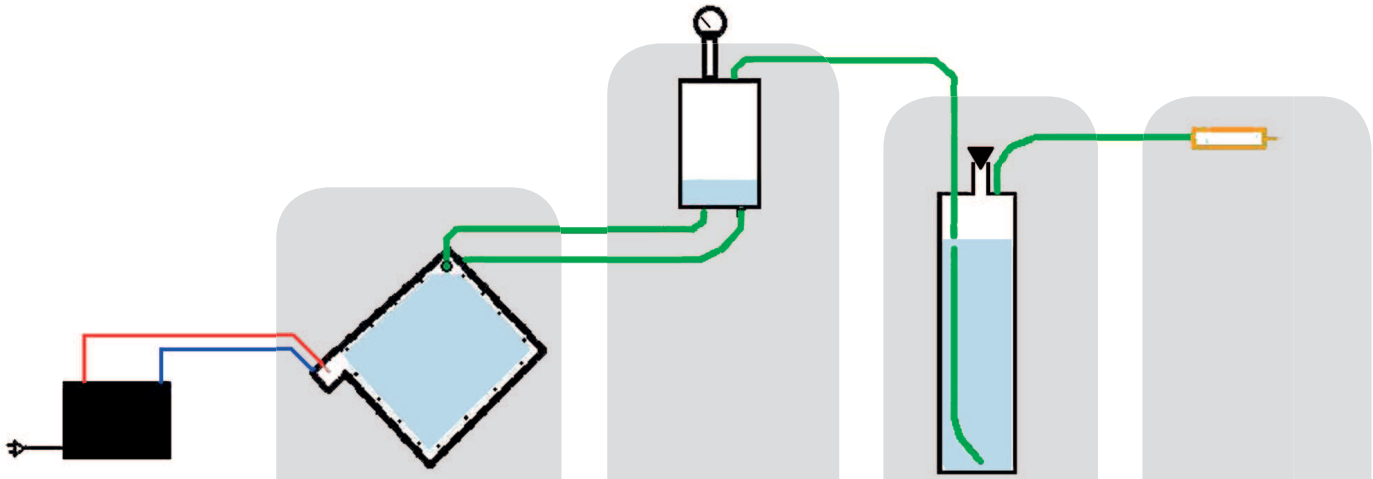
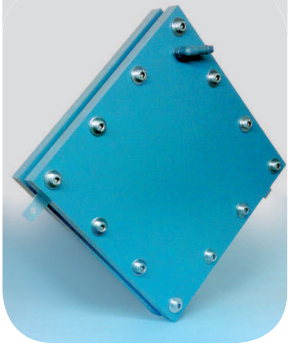
Assembly Instructions:
DIY Large DRYCELL KIT

It consists of:



Large DryCell Kit
12V - p. 2
24V - p. 4
48V - p. 6



Large Water Storage Kit
p. 8

Large Bubbler Kit
p. 10

Arrestor Kit
Straight Nozzle:
p. 12

90°-Nozzle:
p. 14

Large Accessories Set - p. 16

"FreeFromFuel" DIY Manual (Printed Manual + DVD)
It is an important part of this DIY kit, where we explain everything that does not fit in here: Faszinating applications, tuning, helpful hints in case of problems, background information,...

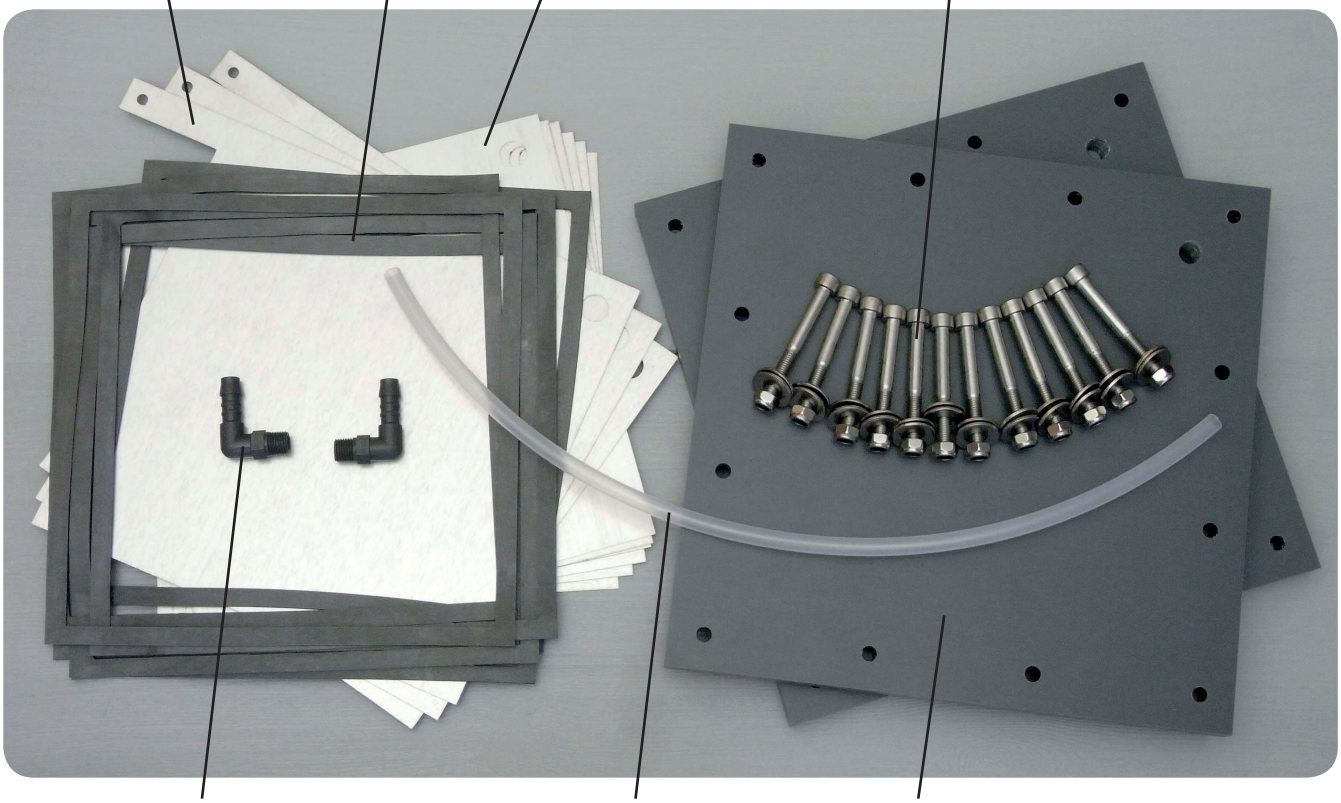
Did you know...? In the printed manual you will also find your password to the customer update area of **FreeFromFuel.com**

Not included: Power Source
Everyone uses the DryCell differently, so of course a power source is not included. You can use a car battery, a switching power supply, a photovoltaics system,...

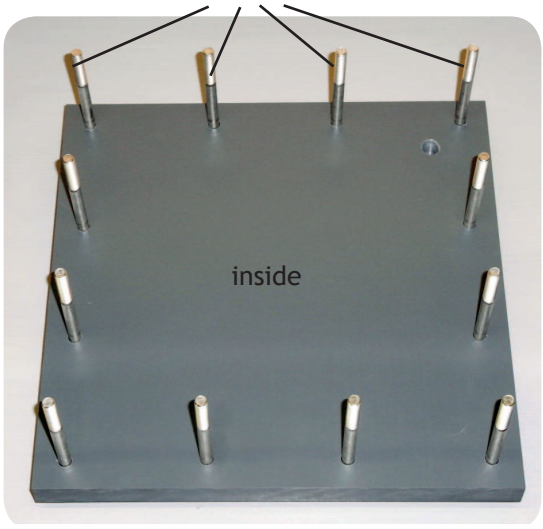
We explain more about power sources in the printed manual, and in the customer update area of **FreeFromFuel.com**

“Large 12V DryCell” Kit Assembly

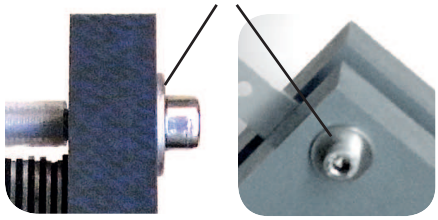
The kit consists of:



1. Poke the 12 bolts through the 12 holes of one cover plate.

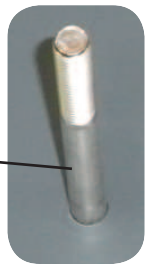


Insert a washer on the outside each time:



2. Cut the short hose into 12 pieces of *exactly* 18mm.

Slip them onto the threaded rods as far as possible. They will prevent short circuits between the plates.



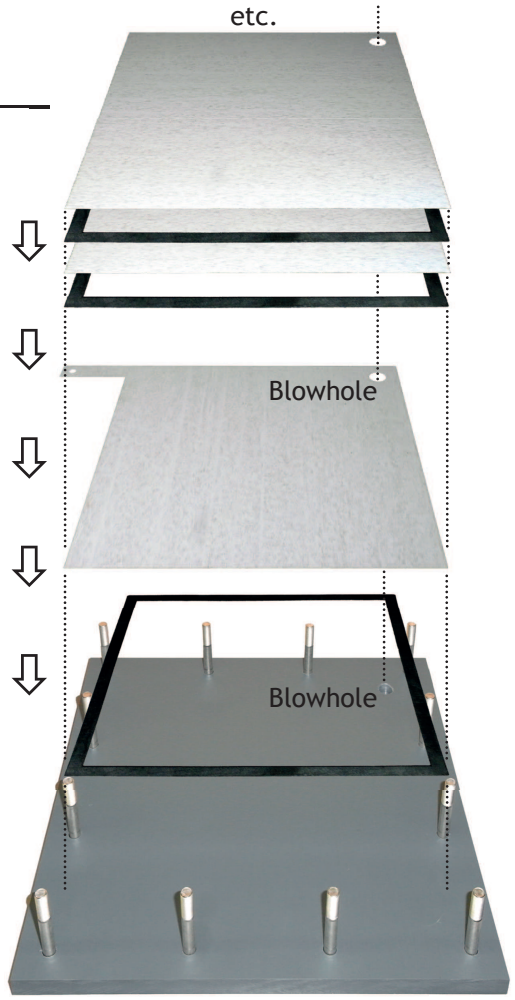
Read the safety instructions on the last page!

3. Clean and passivate steel plates before assembling.

This makes your DryCell more efficient and more rust proof. First clean the plates with Acetone (nail polish remover) and a soft cloth. Rinse well. Touch with gloves only to keep it clean. Passivation: Heat up plates in a a large pot with 20% citric acid (= 200g per 1l water) up to 60°C for 20 minutes. Rinse and assemble.

4. Alternately apply to the cover plate:

⇩ Seal
Steel Plate with Power Connector
⇩ Seal
Plate
⇩ Seal
Steel Plate with Power Connector
⇩ Seal
Plate
⇩ Seal
Plate
⇩ Seal
Plate
⇩ Seal
Plate
⇩ Seal
Steel Plate with Power Connector
⇩ Seal

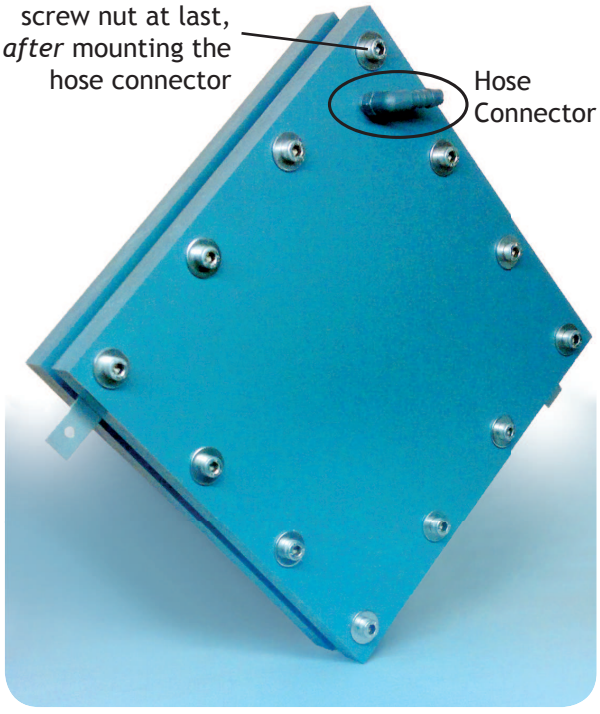


Important: All the plates have one blowhole. These blowholes must be exactly on top of each other! This is for the gas outlet.

5. Apply second cover plate. Screw together *tightly* with 12 washers and 12 screw nuts.

On both cover plates: Do not tighten the screw nut in the corner next to the blowhole. It will help you to mount the hose connectors much easier.

Tighten this screw nut at last, *after* mounting the hose connector



6. Screw the 2 hose connectors into the blowholes.

Wrap each hose connector thread with a few rounds of teflon tape (from the Large Accessories Set, see p. 16) before screwing it in.
Now tighten the screws next to the hose connectors. Tighten *all* screws! The DryCell must be airtight!

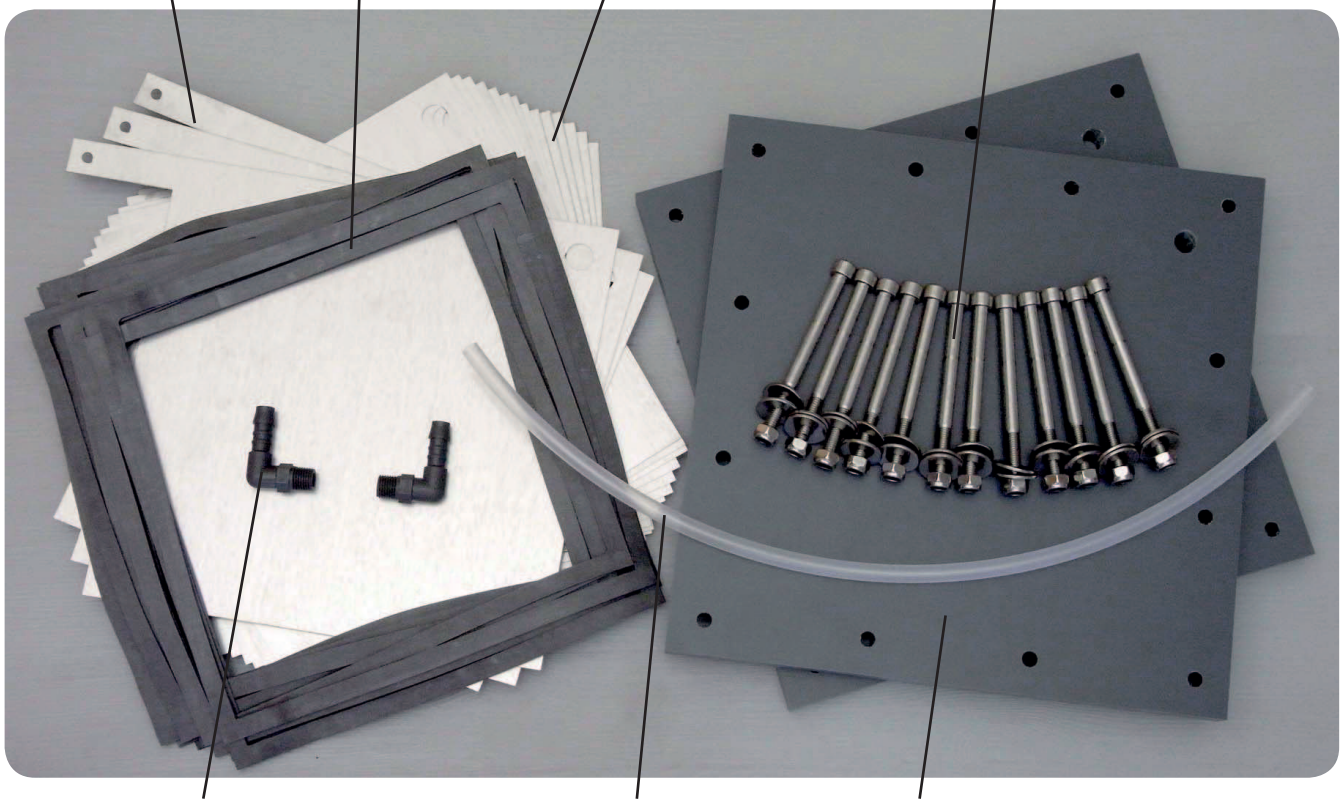
7. Done!

Now how to use the DryCell? We explain this in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD).
It is an important part of this DIY kit.

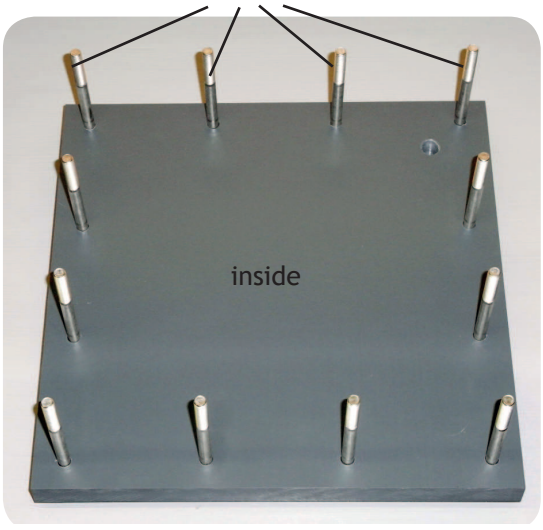
Read the safety instructions on the last page!

“Large 24V DryCell” Kit Assembly

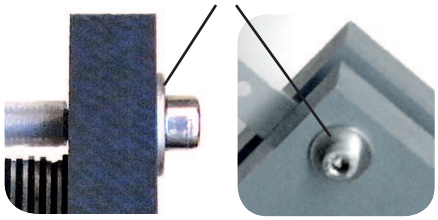
The kit consists of:



1. **Poke the 12 bolts through the 12 holes of one cover plate.**

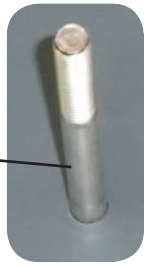


Insert a washer on the outside each time:



2. **Cut the short hose into 12 pieces of *exactly* 33mm.**

Slip them onto the threaded rods as far as possible. They will prevent short circuits between the plates.



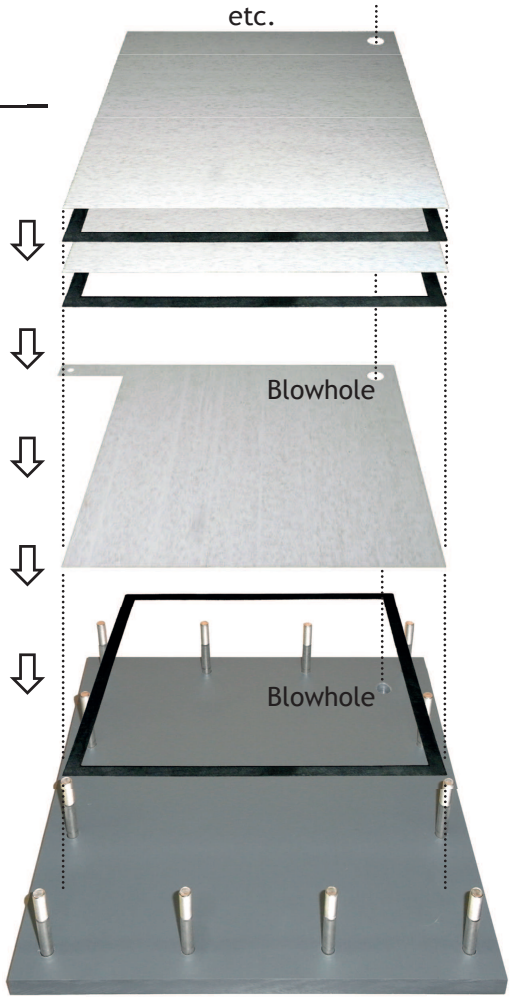
Read the safety instructions on the last page!

3. Clean and passivate steel plates before assembling.

This makes your DryCell more efficient and more rust proof. First clean the plates with Acetone (nail polish remover) and a soft cloth. Rinse well. Touch with gloves only to keep it clean. Passivation: Heat up plates in a a large pot with 20% citric acid (= 200g per 1l water) up to 60°C for 20 minutes. Rinse and assemble.

4. Alternately apply to the cover plate:

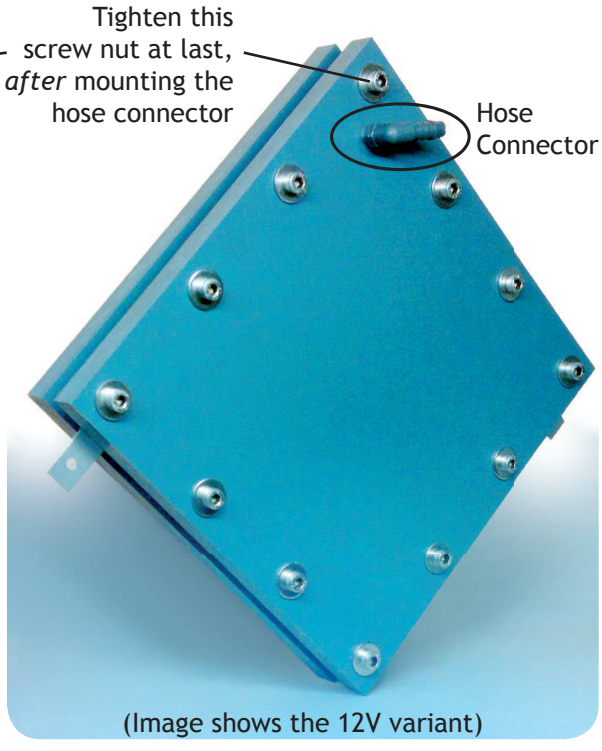
⇩ Seal
Steel Plate with Power Connector
⇩ Seal
Plate
⇩ Seal
Plate
⇩ Seal
Plate
⇩ Seal
Steel Plate with Power Connector
⇩ ***Repeat 11 times:***
Seal
Plate
⇩ Seal
Steel Plate with Power Connector
Seal



Important: All the plates have one blowhole. These blowholes must be exactly on top of each other! This is for the gas outlet.

5. Apply second cover plate. Screw together *tightly* with 12 washers and 12 screw nuts.

On both cover plates: Do not tighten the screw nut in the corner next to the blowhole. It will help you to mount the hose connectors much easier.



(Image shows the 12V variant)

6. Screw the 2 hose connectors into the blowholes.

Wrap each hose connector thread with a few rounds of teflon tape (from the Large Accessories Set, see p. 16) before screwing it in.
Now tighten the screws next to the hose connectors. Tighten *all* screws! The DryCell must be airtight!

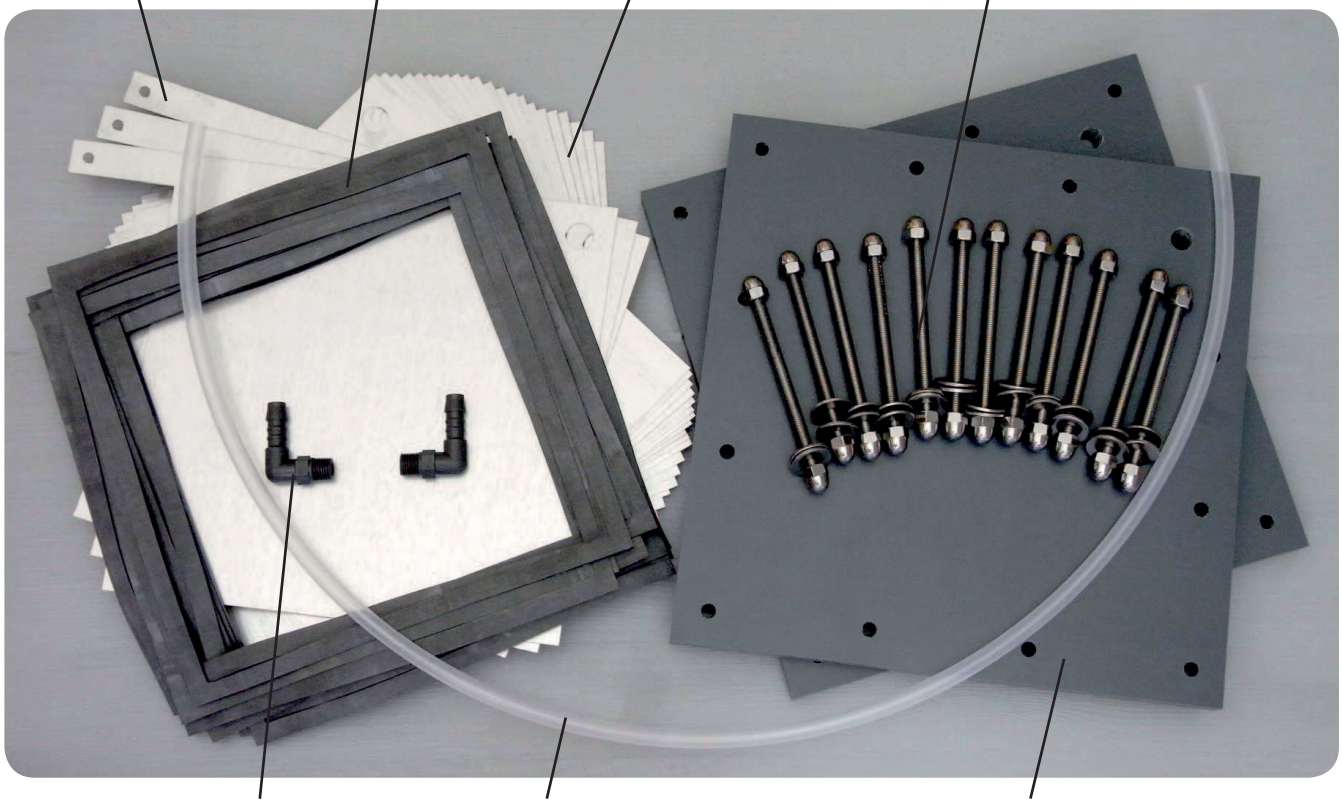
7. Done!

Now how to use the DryCell? We explain this in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD).
It is an important part of this DIY kit.

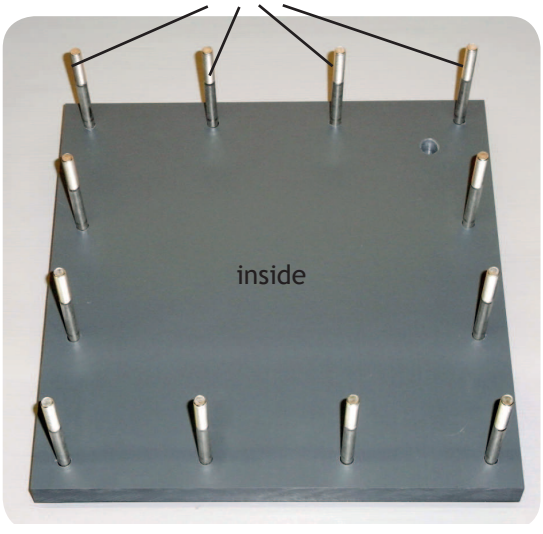
Read the safety instructions on the last page!

“Large 24V DryCell” Kit Assembly

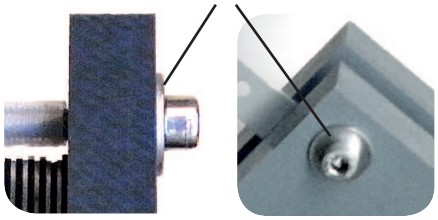
The kit consists of:



1. Poke the 12 bolts through the 12 holes of one cover plate.

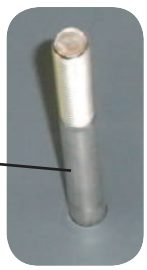


Insert a washer on the outside each time:



2. Cut the short hose into 12 pieces of *exactly* 33mm.

Slip them onto the threaded rods as far as possible. They will prevent short circuits between the plates.



Read the safety instructions on the last page!

3. Clean and passivate steel plates before assembling.

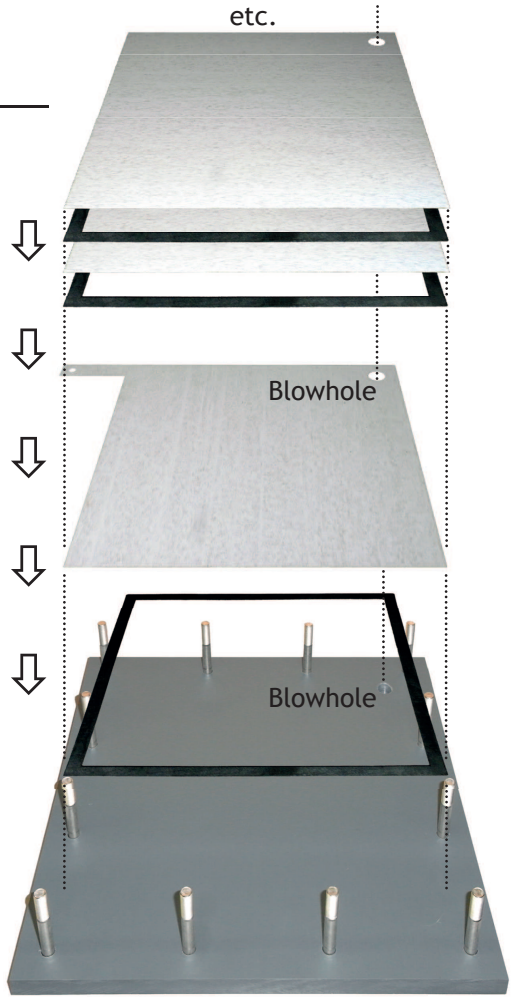
This makes your DryCell more efficient and more rust proof. First clean the plates with Acetone (nail polish remover) and a soft cloth. Rinse well. Touch with gloves only to keep it clean. Passivation: Heat up plates in a a large pot with 20% citric acid (= 200g per 1l water) up to 60°C for 20 minutes. Rinse and assemble.

4. Alternately apply to the cover plate:

Seal
Steel Plate with Power Connector
Seal
Plate
Seal
Plate
Seal
Plate
Seal
Plate
Seal
Steel Plate with Power Connector

Repeat 11 times:
Seal
Plate

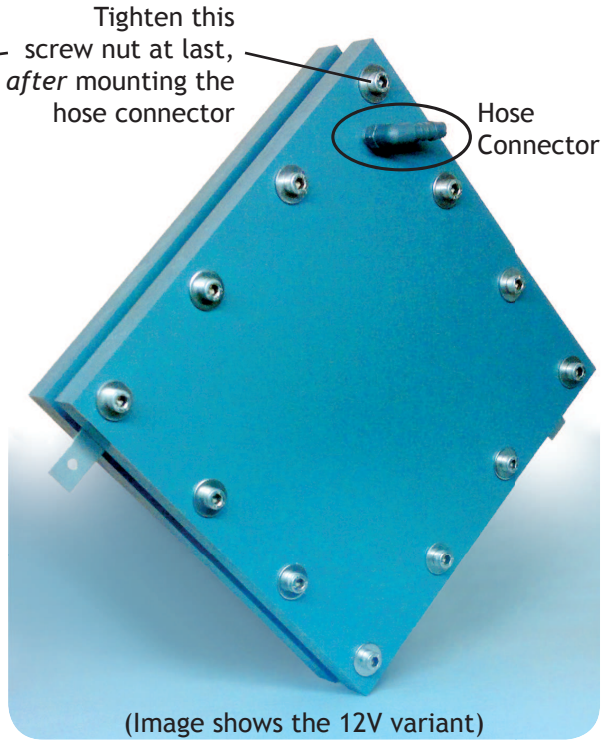
Seal
Steel Plate with Power Connector
Seal



Important: All the plates have one blowhole. These blowholes must be exactly on top of each other! This is for the gas outlet.

5. Apply second cover plate. Screw together *tightly* with 12 washers and 12 screw nuts.

On both cover plates: Do not tighten the screw nut in the corner next to the blowhole. It will help you to mount the hose connectors much easier.



(Image shows the 12V variant)

6. Screw the 2 hose connectors into the blowholes.

Wrap each hose connector thread with a few rounds of teflon tape (from the Large Accessories Set, see p. 16) before screwing it in.
Now tighten the screws next to the hose connectors. Tighten *all* screws! The DryCell must be airtight!

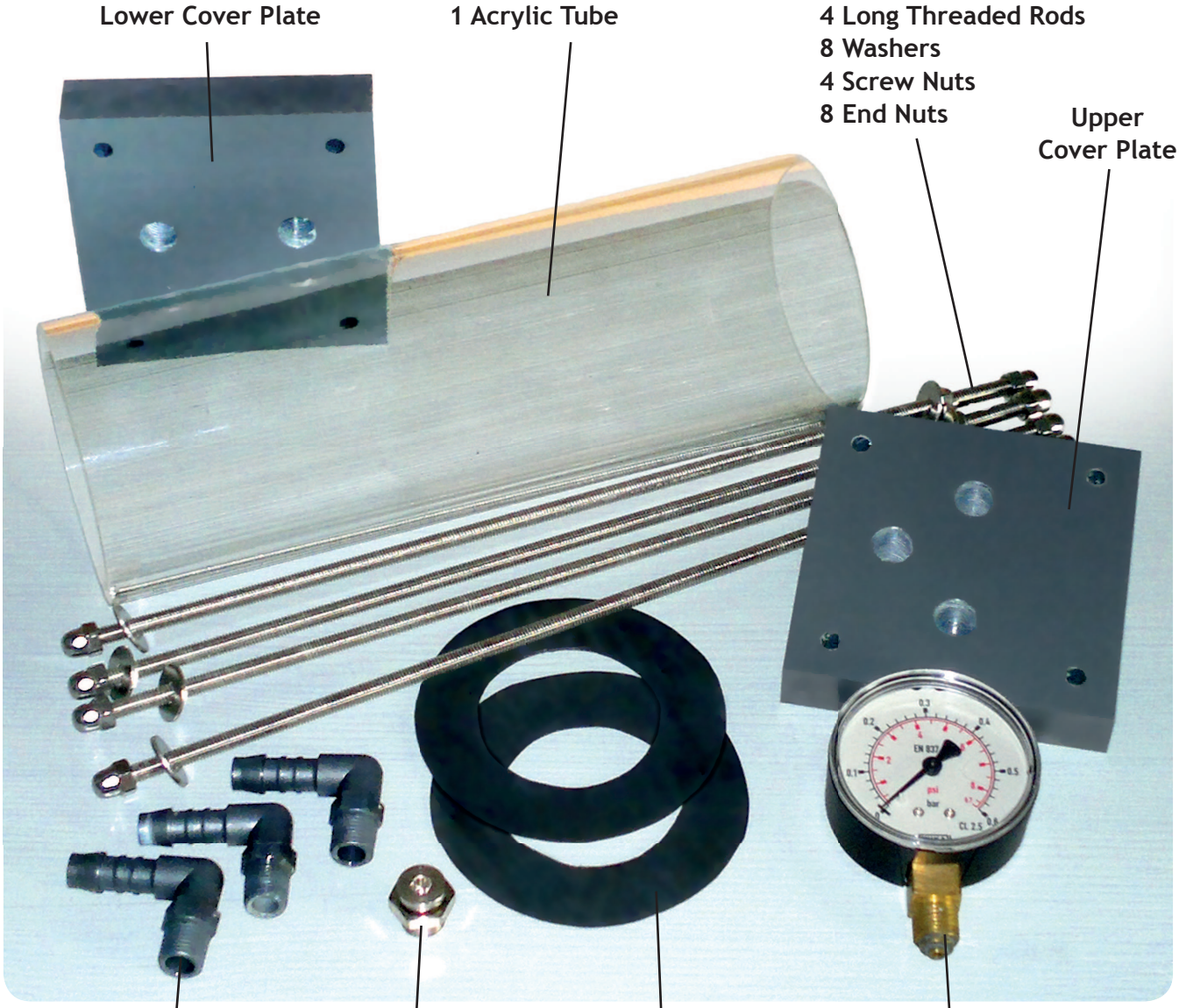
7. Done!

Now how to use the DryCell? We explain this in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD).
It is an important part of this DIY kit.

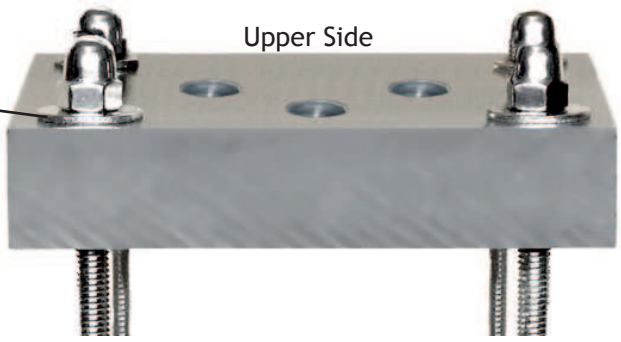
Read the safety instructions on the last page!

“Large Water Storage” Kit Assembly

The kit consists of:



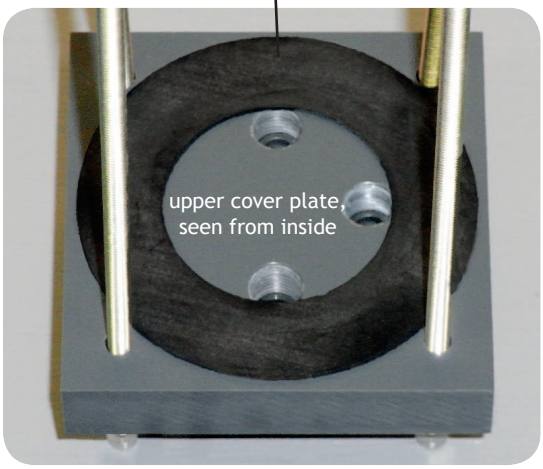
1. Poke the 4 long threaded rods through the holes of the upper cover plate. Secure them with washers and end nuts.



Read the safety instructions on the last page!

2. Turn Upside Down:

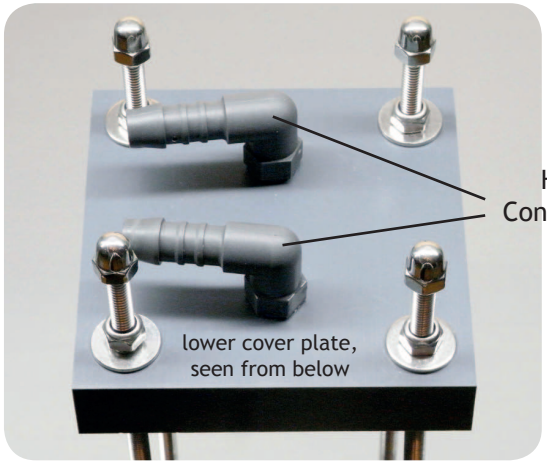
- Apply 1 rubber seal (as shown)
- Apply acrylic tube on top of the seal (not shown)



(Water Storage is turned upside down)

3. Still Upside Down:

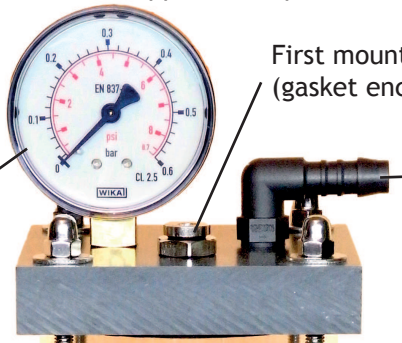
- Apply 2nd rubber seal onto the acrylic tube
- Apply lower cover plate
- Wrap teflon tape onto threads of the hose connectors. Screw them into middle holes.
- Secure with washers, screw nuts and end nuts. Tighten screw nuts well.

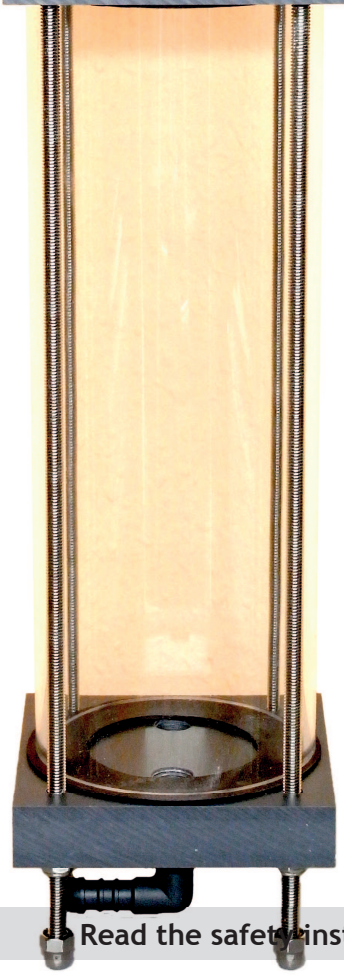


(Water Storage still turned upside down)

4. Turn Water Storage upright again

Mount into the 3 holes of the upper cover plate:





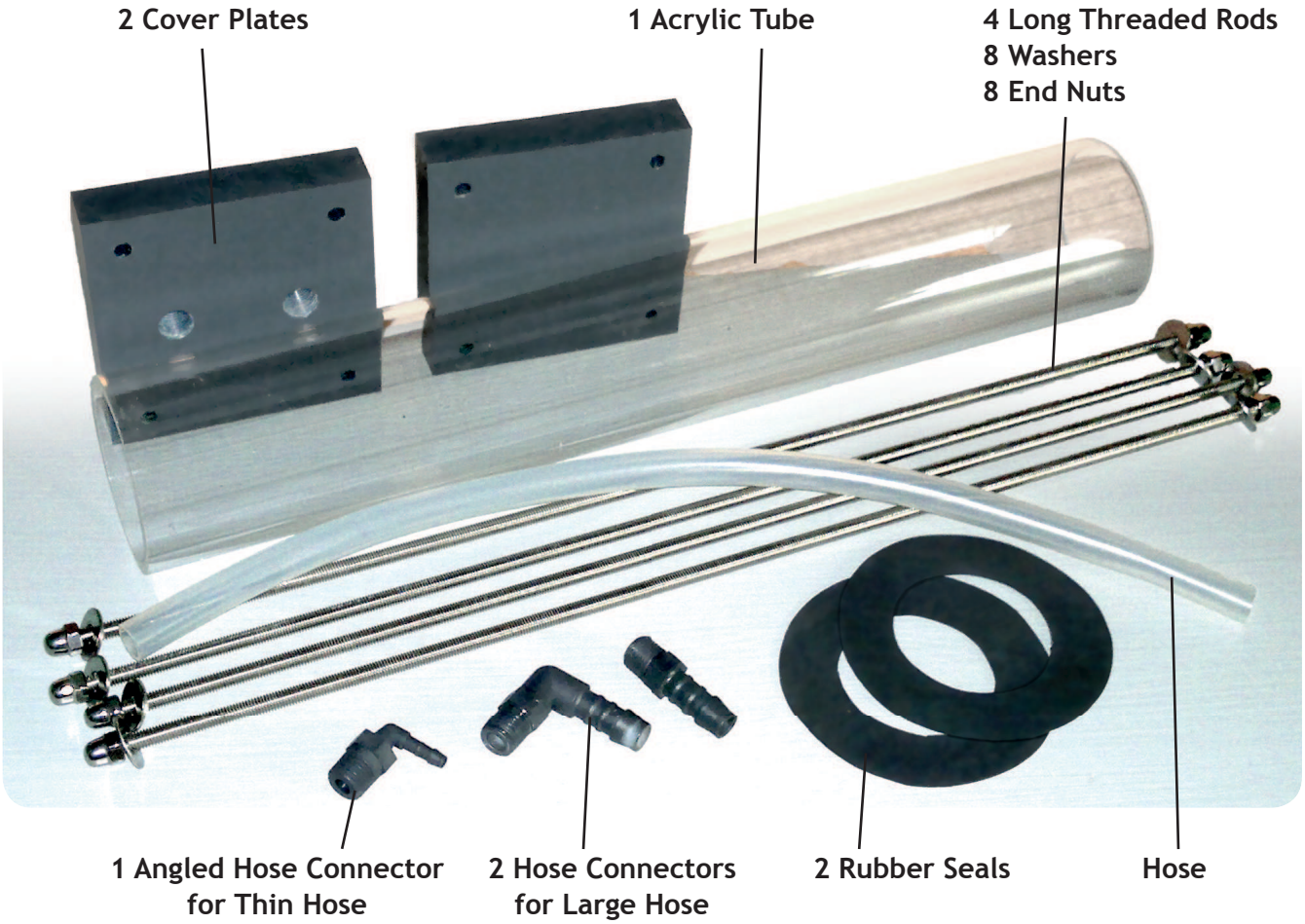
Done!

Now how to use the Water Storage?
We explain this in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD).
It is an important part of this DIY kit.

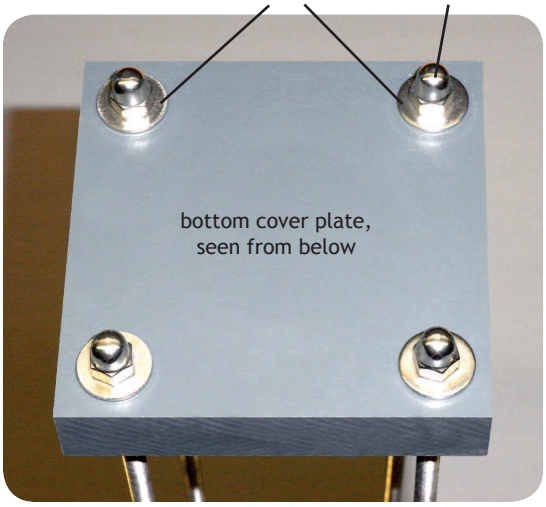
→ Read the safety instructions on the last page!

“Large Bubbler” Kit Assembly

The kit consists of:

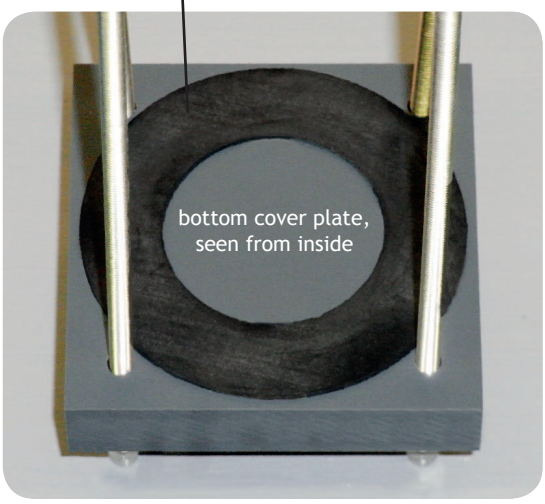


1. Poke the 4 long threaded rods through the holes of the bottom cover plate. Secure them with washers and end nuts.



(Bubbler facing upside down)

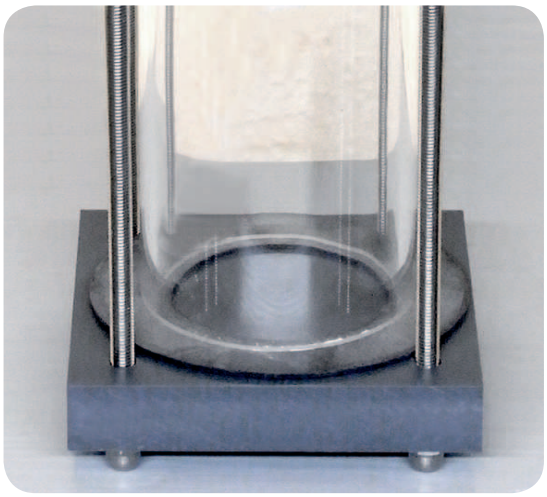
2. Turn Bubbler upside down. Apply one rubber seal as shown.



(Bubbler facing upright)

Read the safety instructions on the last page!

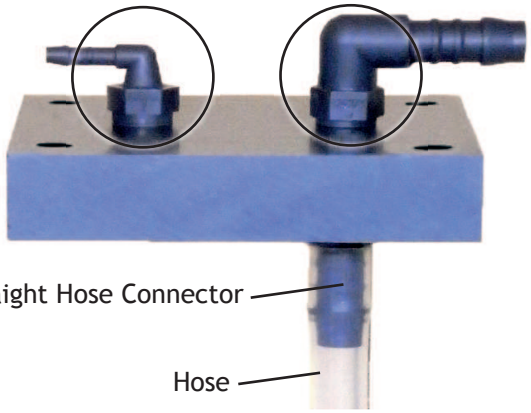
3. Apply acrylic tube onto the rubber seal.



4. Apply 2nd rubber seal onto the tube (not shown)

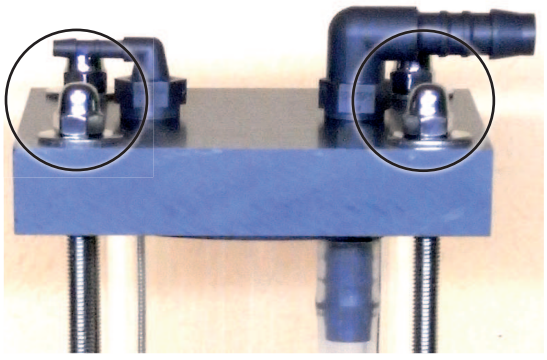
5. Mount the Hose Connectors:

Seal the threads of both angled hose connectors with teflon tape, then mount them to the upper cover plate.



Seal the thread of the straight hose connector with teflon tape, then screw it into the hole from the inside. Apply the hose.

6. Mount the cover plate (with hose connectors attached) onto the lower end of the Bubbler. Secure with washers and end nuts:



Done!

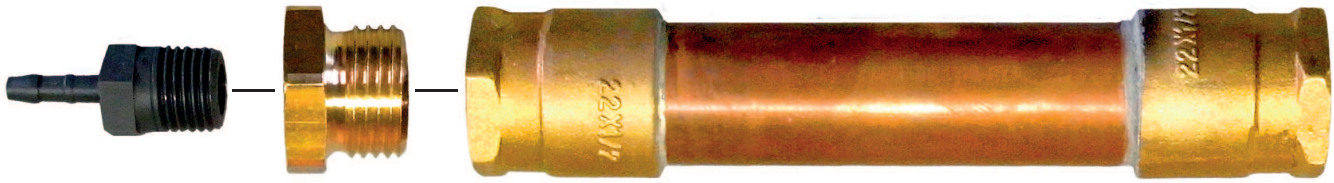
Now how to use the Large Bubbler? We explain this in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD). It is an important part of this DIY kit.

Read the safety instructions on the last page!

“Arrestor” Kit (straight nozzle) Assembly

The kit consists of:

1. Screw 1 hose connector and 1 diminishing pipe into pre-assembled arrestor body. Wrap teflon tape onto all threads.



2. Stuff the steal wool tightly into the arrestor body. Best use a wooden spool handle for this. Spare just a tiny bit of steel wool for later.

Read the safety instructions on the last page!

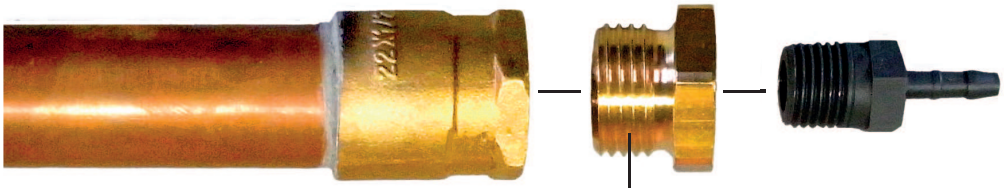
3. Pressure test:
Blow into the flashback arrestor as hard as you can.

Air hardly gets through?
The arrestor is well stuffed.

Blowing is easy?
Stuff harder until almost all steel wool is inside.

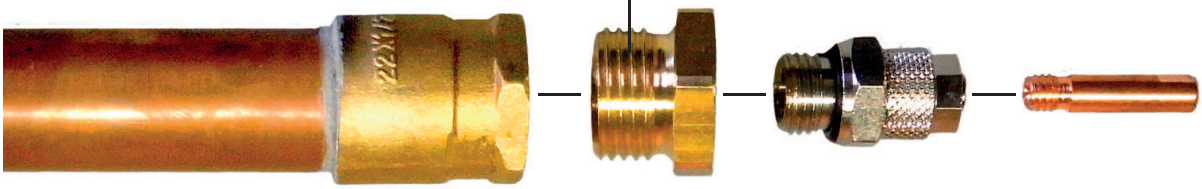
4. Now assemble the other side.
Seal all threads with teflon tape as before.

Variant 1 (using two Arrestors in serial):
First Arrestor with hose connectors on both sides:



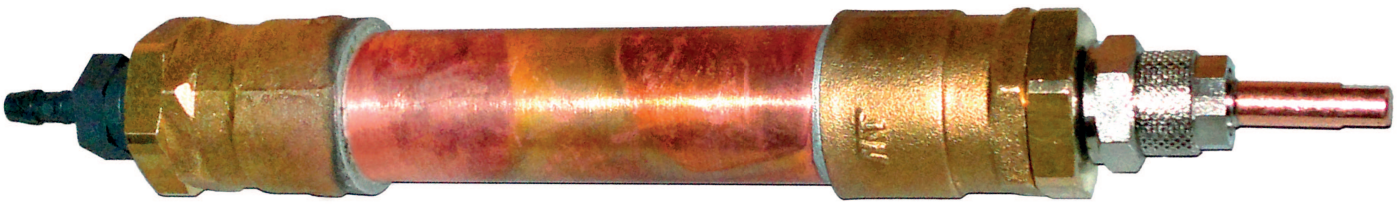
After screwing second diminishing pipe in,
stuff the remaining steel wool tightly inside the remaining hollow space.

Variant 2:
Second Arrestor with straight nozzle:



For maximum security we advise using 2 Arrestors in serial.

5. This is how the Arrestor finally looks like (shown with straight nozzle):



We explain its use in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD). It is an important part of this DIY kit.

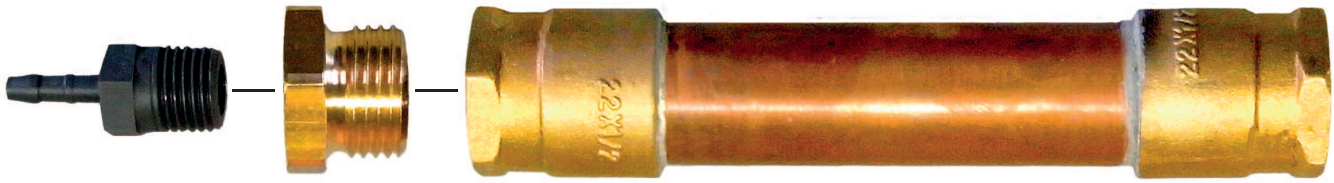
Read the safety instructions on the last page!

“Arrestor” Kit (90° angled nozzle) Assembly

The kit consists of:

50g of Fine Steel Wool
1 Pre-Assembled Arrestor Body
Angled Nozzle Holder
Welding Nozzle 0.6mm
2 Hose Connectors for Thin Hose
2 Diminishing Pipes

1. Screw 1 hose connector and 1 diminishing pipe into pre-assembled arrestor body. Wrap teflon tape onto all threads.



2. Stuff the steal wool tightly into the arrestor body. Best use a wooden spool handle for this. Spare just a tiny bit of steel wool for later.

Read the safety instructions on the last page!

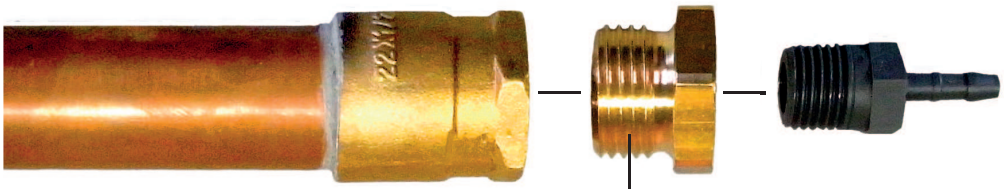
3. Pressure test:
Blow into the flashback arrestor as hard as you can.

Air hardly gets through?
The arrestor is well stuffed.

Blowing is easy?
Stuff harder until almost all steel wool is inside.

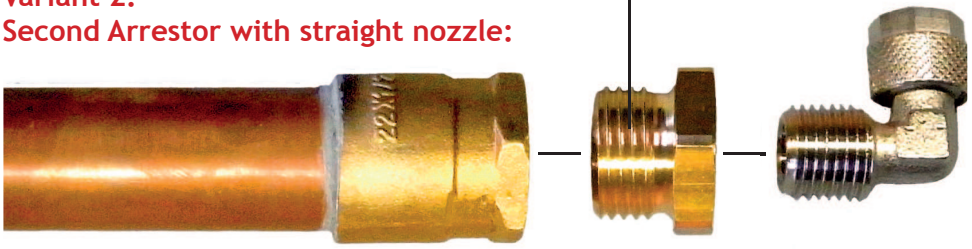
4. Now assemble the other side.
Seal all threads with teflon tape as before.

Variant 1 (using two Arrestors in serial):
First Arrestor with hose connectors on both sides:



After screwing second diminishing pipe in, stuff the remaining steel wool tightly inside the remaining hollow space.

Variant 2:
Second Arrestor with straight nozzle:



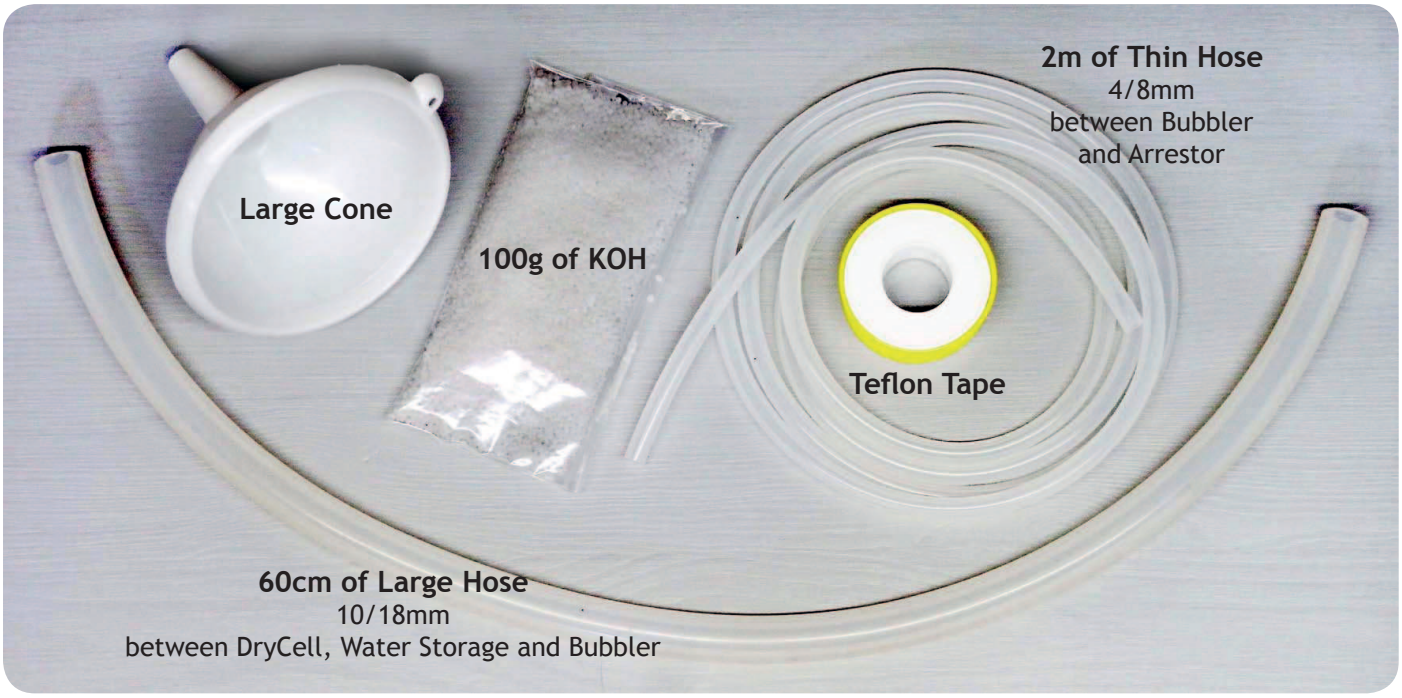
For maximum security we advise using 2 Arrestors in serial.

5. This is how the Arrestor finally looks like (shown with 90°-nozzle):

We explain its use in the comprehensive printed manual of the “FreeFromFuel”-Instruction Set (printed manual + DVD). It is an important part of this DIY kit.

Read the safety instructions on the last page!

“Small DryCell Accessories Set”



Please Read! Important Safety Advice!

This is no bible. We can be wrong at any time. This manual is for adults only. Use at your own risk. Replicate only if you are an experienced technician. Consult an authorized specialist if you are uncertain with any aspect of this manual. This manual is for information purposes only. The experiments shown in this manual are in development still and intended for experienced technicians only.

Keep away from others, especially from children, animals, furniture, beverages and food. Keep away from mobile phones, weapons, explosives and flammable materials. Do not smoke. Do not try this at home. Do not try this outdoors. Keep away from rain, fire, puddles, storms and any other influences of weather. Work in a dry and appropriate environment suitable for technical experiments, such as a machine workshop. Good air ventilation is absolutely necessary. Always keep a fire extinguisher at hand. Be cautious, some materials can get very hot during manufacturing or experiments. Do not work if you feel ill, sleepy or if you are drunk. Handle acids and lyes with care. Never try to swallow distilled water, acids, lyes or any other chemicals. Keep chemicals away from skin and face. In case of an emergency call the ambulance or an emergency doctor. Store all chemicals in their original containers only. Always wear protective clothing, protective glasses, protective gloves, protective footwear and ear protection! Risk of explosions! Oxyhydrogen is highly inflammable and can explode even at low pressures without warning. Take care of live wires. Mortal danger at above 60 Volts (may differ depending on your local authorities). Always isolate conducting electrical wires and components to prevent short circuits, injuries or damage to the environment. Disconnect from power before you touch anything.

This manual can contain errors and therefore all experiments are not intended for unattended or continuous operation or everyday use. We also strongly advise against the unauthorized modification of devices or vehicles. This can cause immediate loss of operating license, insurance protection or cause physical damage. Manipulation of existing units or devices are to be carried out by certified specialists only. Please also carefully note the safety instructions in the film.

Never let the DryCell run unattended. Never let Oxyhydrogen leak out indoors. Never inhale Oxyhydrogen. Always use DryCell with bubbler, 2 flame arrestors, pressure gauge and correctly installed pressure valve only. When using a welding nozzle, always check if the diameter is appropriate for the amount of gas from the DryCell. Back pressure can lead to explosions.

After assembling check all components for leak tightness prior to first use. Before first filling hold DryCell under water (no wires attached!), blow into one hose while keeping the other hose shut: The DryCell must be absolutely airtight.

We are not responsible for other publications, other authors, links and literature mentioned anywhere in the brochure or the film. We do not fully agree with them and we are not responsible for their works. We are all adults. Please judge for yourself and verify if uncertain. In case of doubt please consult authorised specialists.

Threats and patents are useless, the DryCell is Open Source already. Please publish further developments to help free knowledge remain free. Use your brain and common sense. Have a good time! :-)

In the “FreeFromFuel” DIY Manual (Printed Manual + DVD) we explain the use of this DIY kit. It is an important part of this kit. Therein you find everything that doesn’t fit in here: Faszinating applications, tuning, helpful hints in case of problems, your password to the customer area of **FreeFromFuel.com,** and much more!

Imprint:
NewWorldTechnology Stefan Herrmann, Schöne Aussicht 65, 25582 Hohenaspe, Deutschland
in cooperation with FreeFromFuel.com, Boîte P. 761, 98870 Bourail, New Caledonia